"SEND IN THE CLOWNS!" ADOLESCENT VACCINATIONS

N.C. IMMUNIZATION CONFERENCE
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Outline

- Rationale for adolescent vaccination
- Review the current epidemiology of vaccine preventable diseases in adolescents
- Review the latest vaccine recommendations for adolescents
  - Meningococcal vaccine
  - Influenza vaccine
  - Human Papillomavirus vaccine
  - Tetanus/Diphtheria/Pertussis Vaccine
- Discuss strategies to improve adolescent vaccine uptake

Rationale for Emphasizing Adolescent Immunization[1]

- To protect adolescents against infectious diseases that can have lifelong, even life-threatening, complications
- To reduce transmission of disease from adolescents to others at high risk of infection
- To provide clinicians an opportunity to promote regularly scheduled health-care visits by adolescents
- The opportunity to eradicate disease and eliminate health disparities

Reference: 1. Middleman AB, et al. *J Adolesc Health.* 2006;38(3):321-327

Protection During a Period of Increased Risk

- Meningococcal disease
  - Greatest risk group for infection is persons aged 15-21[1]
  - Older adolescents and young adults are up to 5 times more likely to die than persons <15 years of age[2]

- Pertussis
  - 25% -39% of all cases reported between 2003 and 2008 occurred among adolescents 10-19 years of age[3]

References: 1. Harrison LH, et al. JAMA. 2001;286(6):694-699. 2. American Academy of Pediatrics. Ages and Stages, 2013. 3. Centers for Disease Control and Prevention (CDC). Pertussis Surveillance Reports, 2003-2008. 4. Centers for Disease Control and Prevention (CDC). Pertussis Surveillance Reports, 1990-2012.

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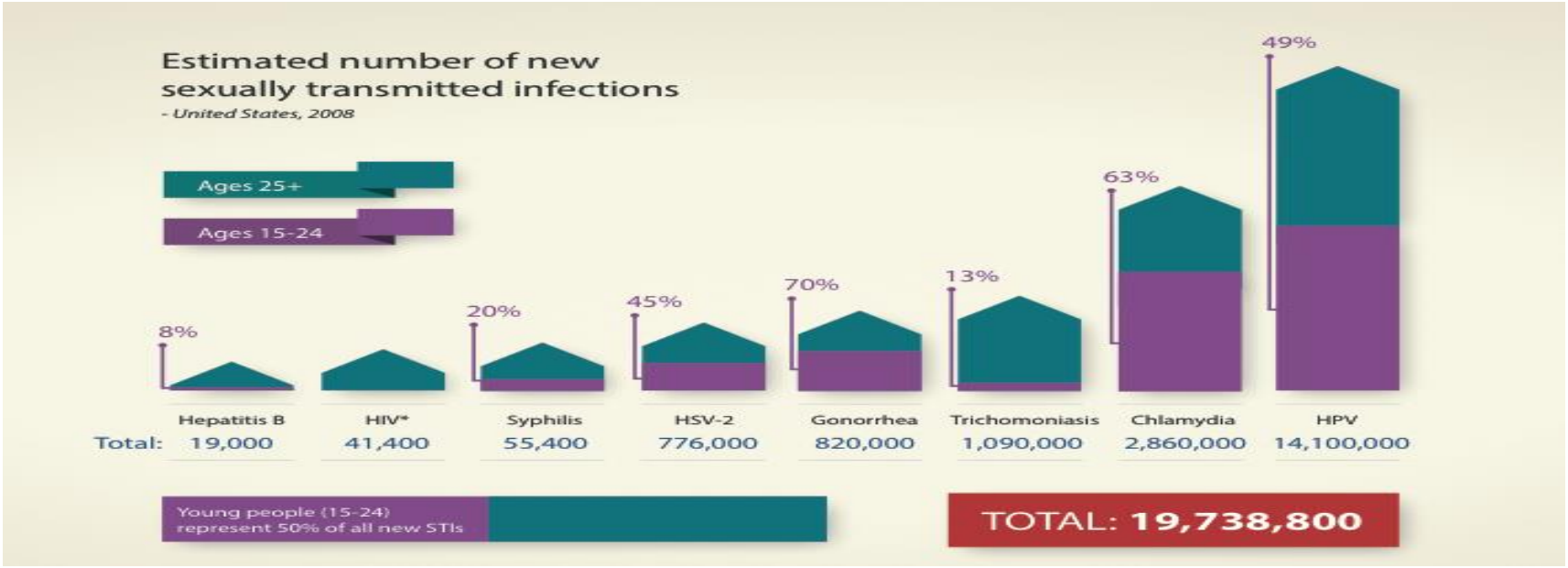
Protection During a Period of Increased Risk

- Human papillomavirus (HPV) infection
  - Prevalence was 32.9% among 15 to 19 year-olds
  - Peaked at 53.8% among 20 to 24 year-olds[1]



Satterwhite, et al. *Sexually Transmitted Diseases*. 2013;40(3):187-193.

Immunization Can Help Reduce Spread of Disease from Adolescents to Others

- Persons <19 years old are a pathway by which influenza is transmitted to elder patients and other high-risk individuals[1]
- Adolescents are responsible for up to 20% of pertussis cases among infants[2]

References: **1**. Weycker D, et al. *Vaccine*. 2005;23:1284-1293. **2.** Bisgard KM, et al. *Pediatr Infect Dis J*. 2004;23:985-989. **3.** Maiden MCJ, et al. *Lancet*. 2002;359:1829-1830. **4**. Ramsay ME, et al. *BMJ*. 2003;326:365-366.

Vaccine-Preventable Disease and Death Remain at Unacceptable Levels in the U.S.

Diseases	Estimated Annual Cases	Average Annual Deaths
Influenza[1]	31,000,000	38,000
Hepatitis B[2,3]	78,000	5000
Hepatitis A[2]	93,000	100
Varicella[4]	67,400	54
Pneumococcal disease[2]	175,000	5500
Meningococcal disease[2]	2500-3000	150
Pertussis[5]	800,000-3,300,000	7
HPV[6]	6,200,000	4000*

*Estimated deaths from cervical cancer, for which HPV infection is a risk factor

1. Weycker D, et al. *Vaccine*. 2005;23:1284. 2. CDC. *Pink Book*. 8th Edition. 2005. 3. American Liver Foundation. Hepatitis and Liver Disease in the United States. Available at: http://www.liverfoundation.org. Accessed April 2005. 4. CDC. *MMWR*. 2005; 54(11);272 . 5. Cherry JD. *Pediatrics*. 2005;115:1422. 6. CDC. Genital HPV Infection – CDC Fact Sheet. Available at: www.cdc.gov/std/HPV/STDFact-HPV.htm. Accessed June 2005.

Adolescent immunizations in 1983

TABLE 1. Recommended schedule for active immunization of normal infants and children (See individual ACIP recommendations for details.)

Recommended age*	Vaccine(s)†	Comments
2 mo.	DTP-1,§ OPV-1¶	Can be given earlier in areas of high endemicity
4 mo.	DTP-2, OPV-2	6-wks-2-mo. interval desired between OPV doses to avoid interference
6 mo.	DTP-3	An additional dose of OPV at this time is optional for use in areas with a high risk of polio exposure
15 mo.**	MMR††	
18 mo.**	DTP-4, OPV-3	Completion of primary series
4-6 yr.§§	DTP-5, OPV-4	Preferably at or before school entry
14-16. yr	Td¶¶	Repeat every 10 years throughout life

*These recommended ages should not be construed as absolute, i.e. 2 mos. can be 6-10 weeks, etc.

†For all products used, consult manufacturer's package enclosure for instructions for storage, handling, and administration. Immunobiologics prepared by different manufacturers may vary, and those of the same manufacturer may change from time to time. The package insert should be followed for a specific product.

§DTP—Diphtheria and tetanus toxoids and pertussis vaccine.

¶OPV—Oral, attenuated poliovirus vaccine contains poliovirus types 1, 2, and 3.

**Simultaneous administration of MMR, DTP, and OPV is appropriate for patients whose compliance with medical care recommendations cannot be assured.

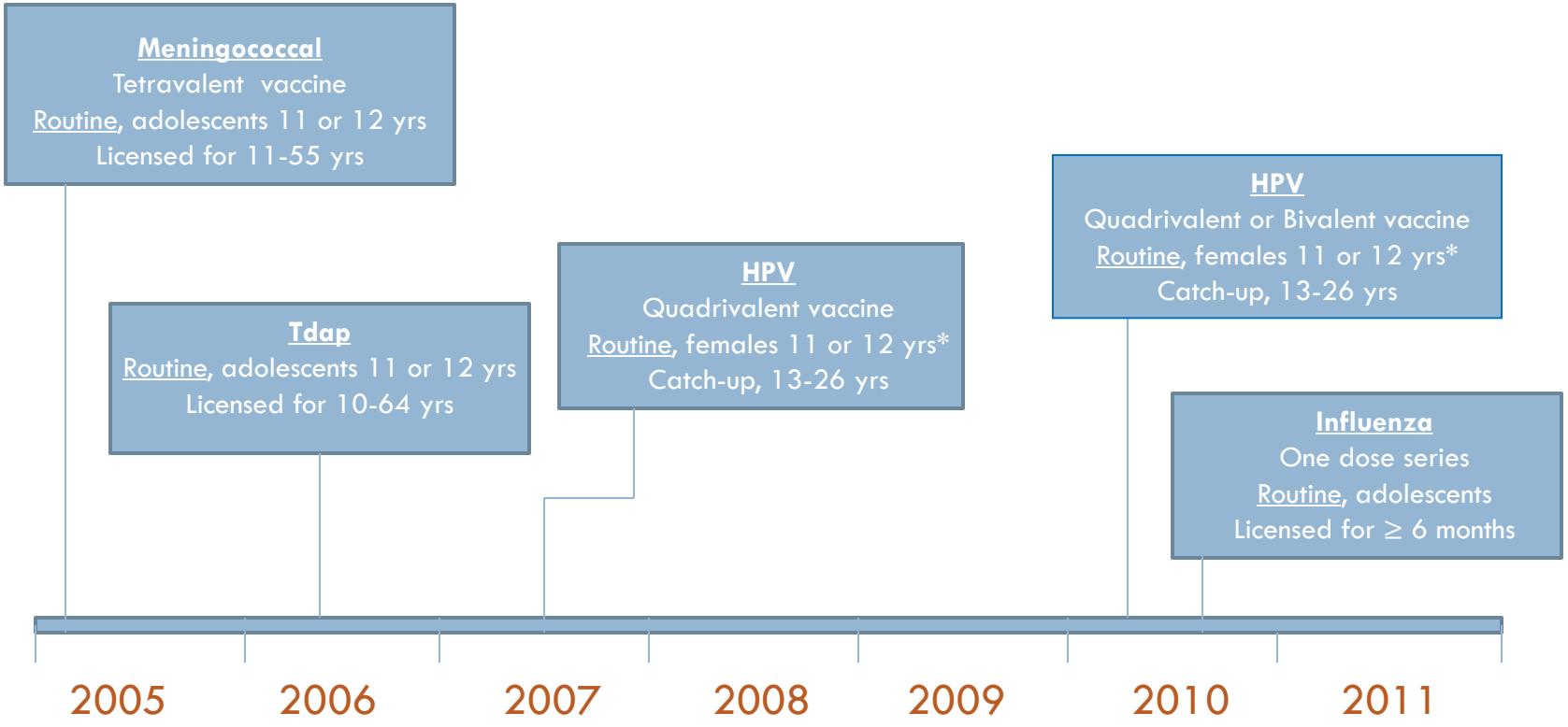
††MMR—Live measles, mumps, and rubella viruses in a combined vaccine (see text for discussion of single vaccines versus combination).

§§Up to the seventh birthday.

¶¶Td—Adult tetanus toxoid and diphtheria toxoid in combination, which contains the same dose of tetanus toxoid as DTP or DT and a reduced dose of diphtheria toxoid.

1983 childhood immunization schedule

First Appearance of Adolescent Vaccines on the ACIP Routine Recommendation Chart



2013 Recommended Immunizations for Children from 7 Through 18 Years Old

7–10 YEARS

11-12YEARS

13-18 YEARS

7–10 YEARS	11-12YEARS	13-18 YEARS
Tdap [1]	Tetanus, Diphtheria, Pertussis (Tdap) Vaccine	Tdap
	Human Papillomavirus (HPV) Vaccine (3 Doses)[2]	HPV
MCV4	Meningococcal Conjugate Vaccine (MCV4) Dose 1[3]	MCV4 Dose 1[3] — Booster at age 16 years
Influenza (Yearly)[4]		
Pneumococcal Vaccine[5]		
Hepatitis A (HepA) Vaccine Series[6]		
Hepatitis B (HepB) Vaccine Series		
Inactivated Polio Vaccine (IPV) Series		
Measles, Mumps, Rubella (MMR) Vaccine Series		
Varicella Vaccine Series		

These shaded boxes indicate when the vaccine is recommended for all children unless your doctor tells you that your child cannot safely receive the vaccine.

These shaded boxes indicate the vaccine should be given if a child is catching-up on missed vaccines.

These shaded boxes indicate the vaccine is recommended for children with certain health conditions that put them at high risk for serious diseases. Note that healthy children **can** get the HepA series[6]. See vaccine-specific recommendations at www.cdc.gov/vaccines/pubs/ACIP-list.htm.

Centers for Disease Control and Prevention. Available at http://www.cdc.gov/vaccines/who/teens/downloads/parent-version-schedule-7-18yrs.pdf.

Case

Sam is a 16 year old male who presents for evaluation of back pain. While addressing his back pain he discloses he hasn't seen a health care provider since he was 11 years old. At that time he received his school mandated Tdap. He thinks he recalls getting more than one shot.

- What do you think he received?
- What if anything does he need now?

MENINGOCOCCAL VACCINATION

Meningococcal Disease[1]

Meningitis

- Fever and headache (flu-like symptoms)
- Stiff neck
- Nausea
- Altered mental status
- Seizures
- Occurs in ~30% of cases; 3% to 10% fatality rate

Meningococcemia

- Rash
- Vascular damage
- Disseminated intravascular coagulation
- Multi-organ failure
- Shock
- Death can occur in 24 hours
- Occurs in 10% to 30% of cases; up to 40% fatality rate

Reference: 1. Munford RS. Meningococcal infections. In: *Harrison's Principles of Internal Medicine.* 15th ed. 2001:927-931.

Severe Late-Stage Meningococcal Infection in a 15-Year-Old Boy

Reprinted with permission from Schoeller T, Schmutzhard E. *N Engl J Med.* 2001;34:1372., Waterhouse-Friderichsen Syndrome

Surviving Meningococcal Disease

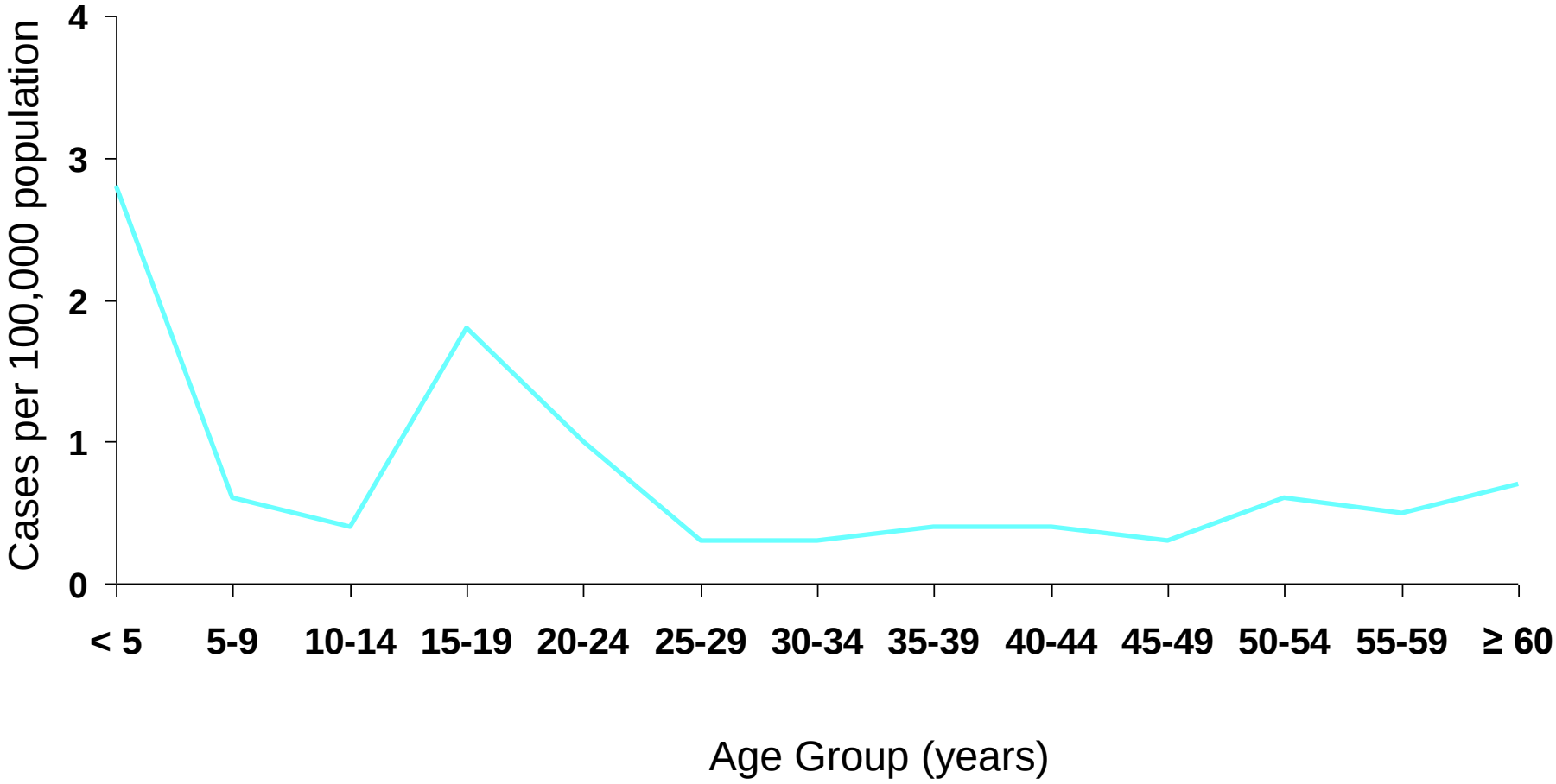
Meningococcemia

- Skin scars from necrosis
- Limb loss from gangrene
- Renal failure
- Septic arthritis
- Pneumonia
- Epiglottitis
- Pericarditis

Meningitis

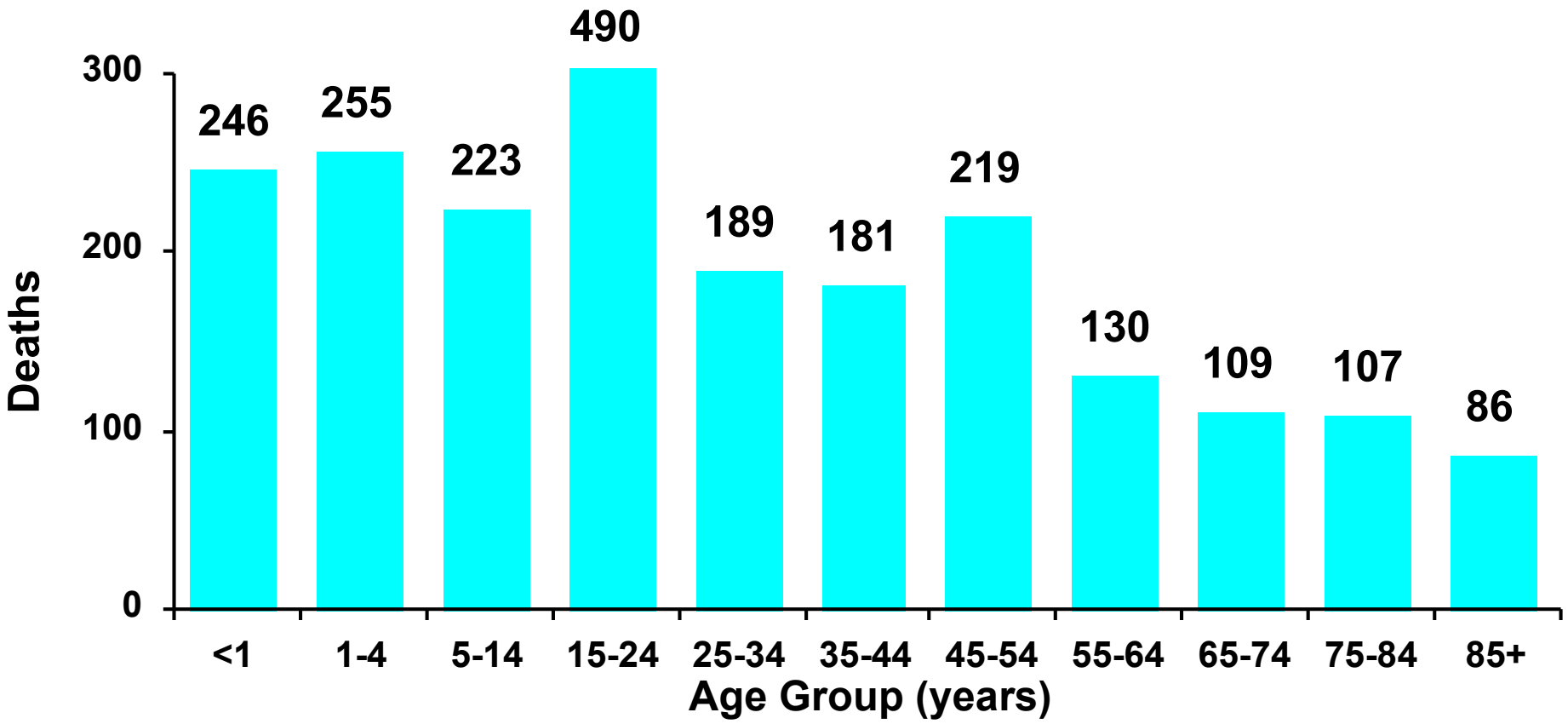
- Spastic quadriplegia
- Hearing loss
- Cerebral infarction
- Cortical venous thrombophlebitis
- Cerebral edema
- Cranial nerve palsies
- Mental retardation
- Hemiparesis

A Peak of Meningococcal Disease Incidence Occurs in 15- to 19-Year-Olds*



*Average annual incidence rate by age in Maryland, 1992–1999
Harrison LH, et al. *JAMA.* 2001;286:694.

Age-Specific Fatalities From Meningococcal Disease in the US (1997-2010)



CDC. *National Vital Statistics Reports.* 1999;47(19):52; 2000;48(11):51; 2001;49(8):27; 2002;50(15):28; 2003;52(3):30; 2004;53(5):29.

Current ACIP Meningococcal Vaccination Recommendations

- Routine vaccination of adolescents at age 11 or 12 years
- All adolescents receive a booster dose of quadrivalent meningococcal conjugate vaccine (MenACWY-D) at age 16 years
- 2-dose primary series administered 2 months apart for persons aged 2-54 years with select immunodeficiencies

Centers for Disease Control and Prevention (CDC)- Advisory Committee on Immunization Practices, Summary Report, October 2010

Summary of meningococcal conjugate vaccine recommendations by risk group, October 2010

Risk group	Primary series	Booster dose
Persons aged 11 through 18 years	1 dose, preferably at age 11 or 12 years	At age 16 years if primary dose at age 11 or 12 years
		At age 16 through 18 years if primary dose at age 13 through 15 years
		No booster needed if primary dose on or after age 16 years
HIV-infected persons in this age group	2 doses, 2 months apart	At age 16 years if primary dose at age 11 or 12 years
		At age 16 through 18 years if primary dose at age 13 through 15 years
		No booster needed if primary dose on or after age 16 years
Persons aged 2 through 55 years with persistent complement component deficiency* or functional or anatomical asplenia	2 doses, 2 months apart	Every 5 years
		At the earliest opportunity if a 1-dose primary series administered, then every 5 years
Persons aged 2 through 55 years with prolonged increased risk for exposure†	1 dose	Persons aged 7 years or older: after 5 years§

Abbreviation: HIV = human immunodeficiency virus.
* Such as C5--C9, properidin, or factor D.
† Microbiologists routinely working with *Neisseria meningitidis* and travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic.
§ If the person remains at increased risk.

INFLUENZA VACCINATION

Influenza: An Annual Epidemic[1]

- Up to 20% of US population becomes ill with influenza annually
- Each year, complications of influenza are responsible for
  - Billions of dollars in health-care and work-loss costs
  - 226,000 excess hospitalizations
    - About half in persons <65 years of age
  - 36,000 excess deaths
    - Leading cause of vaccine-preventable–disease deaths in the US
    - 90% of influenza-related deaths occur among elderly patients

Reference: 1. CDC. *MMWR*. 2009;58(RR-8):1-52.

Influenza Vaccination

- 2010-2011 Seasonal Recommendations
  - Annual vaccination be administered to all persons aged ≥6 months
  - Influenza vaccine combined into one (seasonal and H_1N_1)

2013-2014 ACIP Recommendations Regarding Persons with Egg Allergy

- Persons who have experienced only hives following egg exposure should receive influenza vaccine with the following additional measures:
  - Because studies published to date involved use of IIV, IIV rather than LAIV should be used
  - Vaccine should be administered by a provider familiar with the potential manifestations of egg allergy
  - Recipients should be observed for at least 30 minutes for signs of a reaction
  - Measures, such as dividing and administering vaccine by a two-step approach and skin testing, are not necessary
  - All vaccination providers should be familiar with office emergency plan

2013-2014 Revised abbreviations for available influenza vaccines

- TIV (Trivalent Influenza Vaccine), previously used for inactivated influenza vaccines, has been replaced with the abbreviation IIV (Inactivated Influenza Vaccine)
  - IIVs as a class will include:
    - Egg-based and cell culture-based trivalent inactivated influenza vaccine (IIV_3); and
    - Egg-based quadrivalent inactivated influenza (IIV_4)
  - RIV refers to recombinant hemagglutinin influenza vaccine
    - Available as a trivalent formulation (RIV_3)
  - LAIV refers to live, attenuated influenza vaccine
    - Available as a quadrivalent formulation ($LAIV_4$)
  - LAIV, IIV, and RIV denote vaccine categories; numeric suffix specifies the number of influenza virus antigens contained in the vaccine.
  - Where necessary to refer specifically to cell culture-based vaccine, the prefix "cc" is used (e.g., "ccIIV_3")

ACIP Abbreviations for Vaccines (http://www.cdc.gov/vaccines/acip/committee/guidance/vac-abbrec.html)

Newly Approved Influenza Vaccines

- These include the two quadrivalent vaccines and two vaccines that are produced using technologies that are new for US influenza vaccines:
  - Quadrivalent Live-attenuated Influenza Vaccine (LAIV4)—Flumist® Quadrivalent (MedImmune) ®
  - Quadrivalent Inactivated Influenza Vaccine (IIV4)—Fluarix Quadrivalent (GSK)
  - Cell-culture based inactivated influenza vaccine (ccIIV3)—Flucelvax® (Novartis)
  - Recombinant hemagglutinin vaccine (RIV3)—FluBlok® (Protein Sciences)

Influenza Vaccines — United States, 2013–14 influenza season

Vaccine	Trade name	Age indications	Route
Inactivated Influenza Vaccine, Trivalent (IIV3), Standard Dose	Afluria®	≥9 yrs	IM
	Fluarix®	≥3 yrs	IM
	Flucelvax®	≥18 yrs	IM
	FluLaval®	≥18 yrs	IM
	Fluvirin®	≥4 yrs	IM
	Fluzone®	≥6 mo*; ≥36 mo*; 6-35 mo*	IM
	Fluzone® Intradermal	18-64 yrs	ID
Inactivated Influenza Vaccine, Trivalent (IIV3), High Dose	Fluzone® High-Dose	≥65 yrs	IM

Advisory Committee on Immunization Practices (ACIP)

*Age indications dependent on vaccine presentation

Influenza Vaccines — United States, 2013–14 influenza season

Vaccine	Trade name	Age indications	Route
Inactivated Influenza Vaccine, Quadrivalent (IIV4), Standard Dose	Fluarix® Quadrivalent	≥3 yrs	IM
	Fluzone® Quadrivalent	6 through 35 mo*; ≥36 mo*	IM
Recombinant Influenza Vaccine, Trivalent (RIV3)	FluBlok®	18 through 49 yrs	IM
Live-attenuated Influenza Vaccine, Quadrivalent(LAIV4)	FluMist® Quadrivalent	2 through 49 yrs	IN

Advisory Committee on Immunization Practices (ACIP)

*Age indications dependent on vaccine presentation

HUMAN PAPILLOMAVIRUS (HPV)

The Impact of HPV in the US

- Approximately 50% of sexually active males and females will have acquired genital HPV infection[1]
- Estimated prevalence: 20 million[1]
- Estimated incidence: 6.2 million per year[1]
- Up to 75% of new HPV infections occur among persons 15-24 years of age[1]

References: **1**. CDC. Human papillomavirus. In: Atkinson W, et al, eds. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. 11th ed. Washington, DC: Public Health Foundation; 123-134. **2.** CDC. *MMWR*. 2007;56(RR-2):1-24.

Estimated Percentages of Cancers Associated with HPV in the U.S.

Cancer	Any HPV % (95% CI)	HPV 16/18 % (95% CI)
Cervical	96 (95-97)	76 (NA)
Anal	93 (86-97)	87 (82-91)
Vaginal	64 (43-82)	56 (35-76)
Oropharyngeal	63 (50-75)	60 (47-72)
Vulvar	51 (37-65)	44 (30-58)
Penile	36 (26-47)*	31 (22-42)

Gillison, Cancer 2008

% HPV is percentage of all cancers due to any HPV

*% HPV for penile cancer is percentage due to oncogenic HPV type

% HPV 16/18 is percentage of all cancers due to HPV 16/ HPV 18

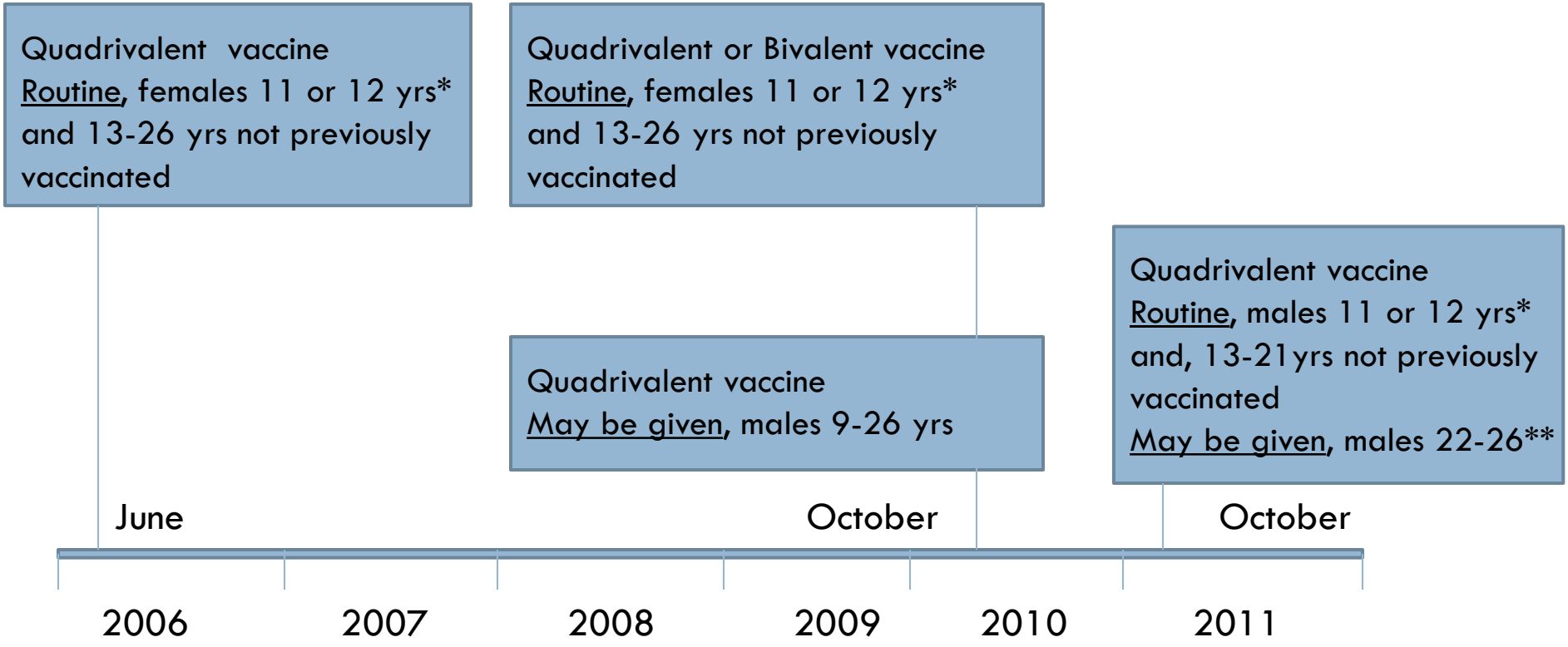
Estimated HPV and HPV 16/18-Associated Cancers, Both Sexes, 2004-2007

Anatomic Area	Average annual number of cases*	HPV associated	HPV 16/18 associated
Cervix	11,845	11,370	9,000
Vagina	714	460	400
Vulva	3,062	1,560	1,350
Anus & Rectum (W)	2,977	2,770	2,590
Oropharynx (W)	2,306	1,450	1,380
Total (Females)	**20,903**	**17,610**	**14,720**
Penis	1,000	360	310
Anus & Rectum (M)	1,618	1,500	1,410
Oropharynx (M)	8,936	5,630	5,360
Total (Males)	**11,553**	**7,490**	**7,080**

- There is a trend of increasing oropharyngeal cancers that is expected to surpass cervical cancer incidence by 2020, especially in men, and anal cancers, in men and women.

*Defined by histology and anatomic site; Watson M et al. Cancer 2008. Data source: National Program of Cancer Registries and SEER, covering 83% coverage of US population. Gibson ML, et al. Cancer 2008

FDA Licensure and ACIP Recommendations for HPV Vaccine in the United States



* Can be given starting at 9 yrs of age

** For MSM and immunocompromised males, HPV4 vaccine though age 26 years

HPV Vaccines

HPV2 (Cevarix, GSK)

- Contains HPV types 16, 18
- FDA approved for the prevention of cervical cancer

HPV4 (Gardasil, Merck)

- Contains HPV types 6,11,16, and 18
- FDA approved for the prevention of
  - Cervical cancer
  - Vaginal cancer
  - Vulvar cancer
  - Adenocarcinoma in-situ
  - Anal cancer (males and females)
  - Pre-cancerous lesions
  - Genital warts (males and females)

HPV2 and HPV4 ACIP Recommendations (Females)

- Routine vaccination of females aged 11 or 12 years with 3 doses of either HPV2 or HPV4
  - Ideally, vaccine should be administered before potential exposure to HPV through sexual contact
- Vaccination is recommended for females aged 13 through 26 years who have not been vaccinated previously or who have not completed the 3-dose series
  - If a female reaches age 26 years before the vaccination series is complete, remaining doses can be administered after age 26 years
- The vaccine is a 3 dose series
- Vaccination not a substitute for routine cervical cancer screening

Centers for Disease Control and Prevention (CDC). FDA Licensure of Bivalent Human Papillomavirus Vaccine (HPV2, Cervarix) for Use in Females and Updated HPV Vaccination Recommendations from the Advisory Committee on Immunization Practices (ACIP). *MMWR* 59(20) 626-629, 2010.

HPV4 ACIP Recommendation for Males

- Routine use of quadrivalent human papillomavirus (HPV4) vaccine in males aged 11 or 12 years

- ACIP also recommended vaccination with HPV4 for males aged 13-21 years who have not been vaccinated previously or who have not completed the 3-dose series

- Males aged 22 through 26 years may be vaccinated (9 & 10 years too).
  - For MSM and immunocompromised males, HPV4 vaccine though age 26 years

- These recommendations replace October 2009 ACIP guidance that HPV4 may be given to males aged 9 through 26 years for the prevention of genital warts.
  - Current recommendations consider prevention of anal cancer indication

Centers for Disease Control and Prevention (CDC). Recommendations on the Use of Quadrivalent Human Papillomavirus Vaccine in Males — Advisory Committee on Immunization Practices (ACIP), 2011. *MMWR* 60(50) 1705-1708, 2011.

PERTUSSIS

Reported Pertussis-Related Deaths by Age-Groups, U.S., 1980-2009

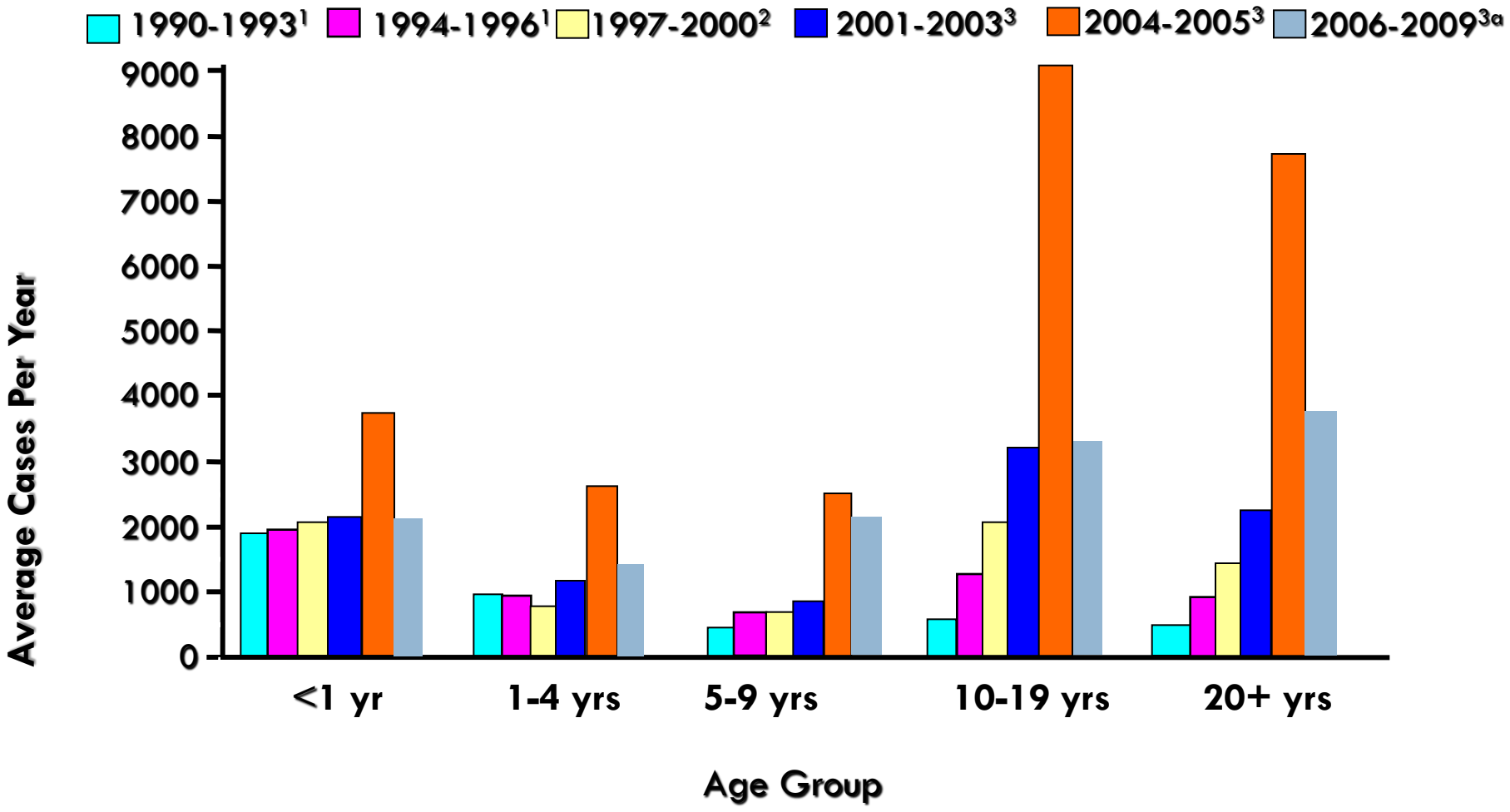
Age-group	1980-1989[1]	1990-1999[1]	2000-2009[2]
0-1 month	38	68	152
2-3 month	11	16	23
4-5 month	5	5	2
6-11 month	7	4	1
1-4 years	13	2	2
5-10 years	1	6	3
11-18 years	0	0	3
>18 years	1	2	8
Total	77*	103	194

*Includes one case with unknown age

[1]Vitek CR et al. Pediatr Infect Dis J 2003; 22(7): 628-34

[2]National Notifiable Diseases Surveillance System, CDC, 2009.

Reported Cases of Pertussis Are Highest Among Adolescents and Adults



[a] Data for 2009 are provisional.

References: 1. Güris D, et al. *Clin Infect Dis*. 1999;28(6):1230-1237. 2. CDC. *MMWR*. 2002;51(4):73-76. 3. CDC. Pertussis Surveillance Reports, 2001-2009.

Common Clinical Manifestations of Pertussis in Adolescents 12-17 Years of Age[1]

- Any cough ≥ 3 weeks in 97%, >9 weeks in 47%
- Paroxysms ≥3 weeks in 73%
- Whoop in 67%
- Post-tussive emesis in 65%
- On average, adolescents missed 5 days of school
- Adults missed average 7 days of work
- Average 14 days of disrupted sleep
- Complications include: pneumonia, inguinal hernia, rib fractures, urinary incontinence

Reference: 1. De Serres G, et al. *J Infect Dis.* 2000;182(1):174-179.

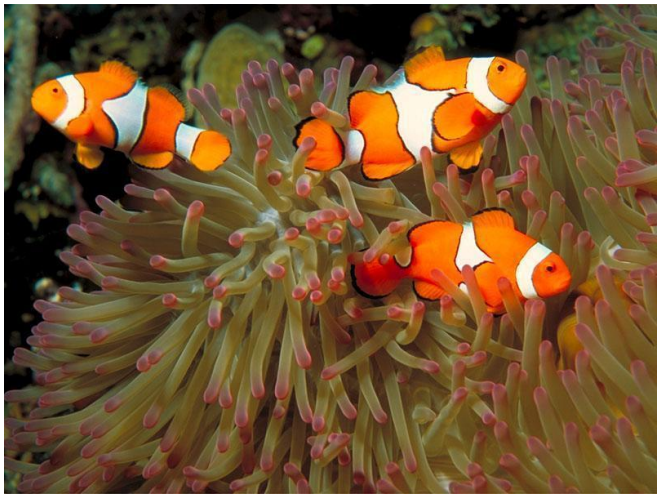
Current ACIP Recommendations for Tdap

- A single Tdap dose
  - Adolescents aged 11 through 18 years, routine 11 or 12 years
  - Adults aged 19 and older
- Decennial Td booster for those who have received 1 Tdap
  - 5 years for wound management

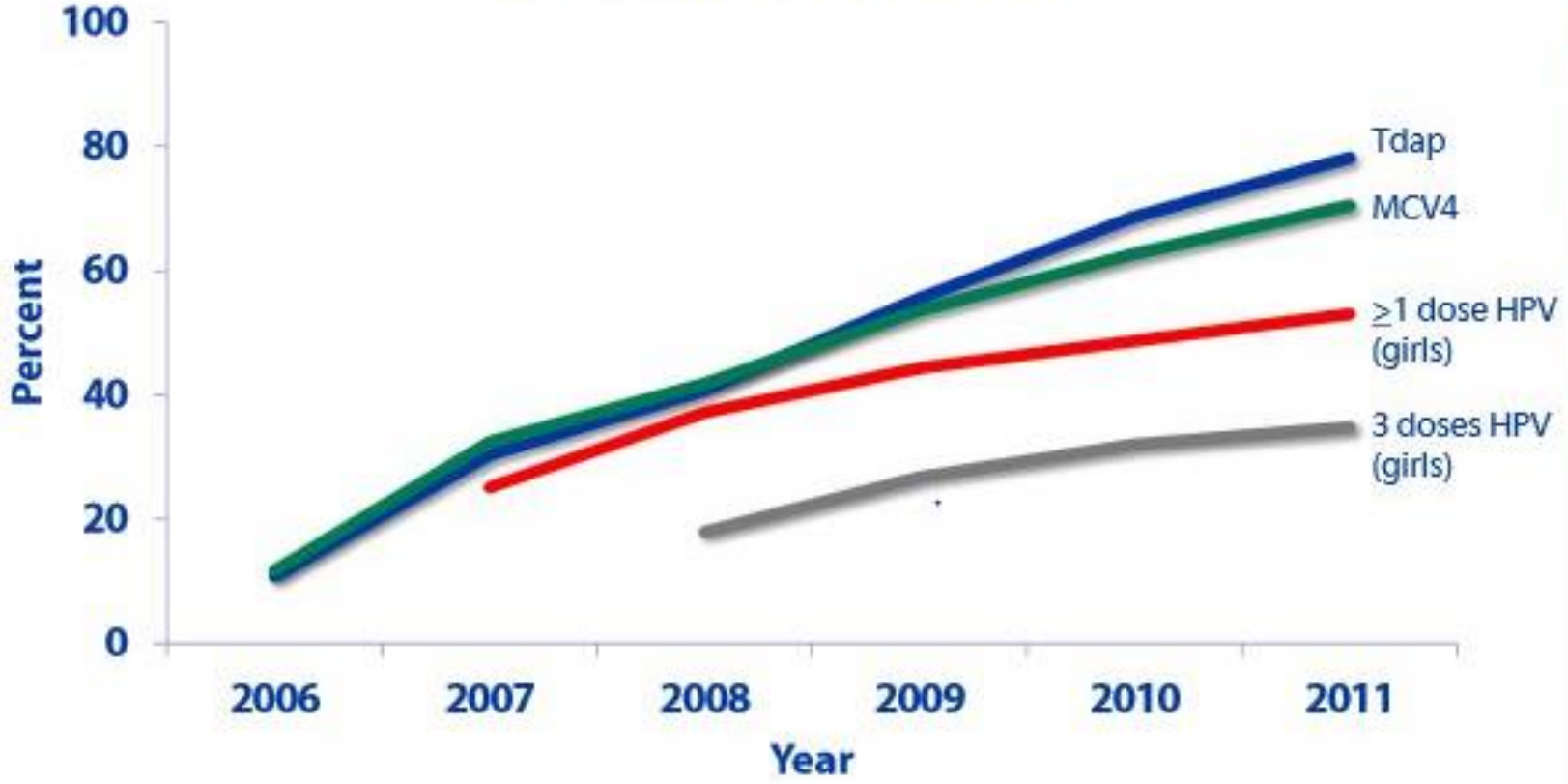
Tdap Use in Pregnant Women

- ACIP recommends that providers of prenatal care implement a Tdap immunization program for all pregnant women.
  - Health-care personnel should administer a dose of Tdap during **each** pregnancy irrespective of the patient's prior history of receiving Tdap.
  - If not administered during pregnancy, Tdap should be administered immediately postpartum."

UPTAKE OF ADOLESCENT VACCINATION



National estimated vaccination coverage levels among adolescents 13-17 years, NIS-Teen, 2006-2011



National Immunization Survey (NIS)-Teen. MMWR 2012; 61

Results of US National Immunization Survey-Teen, 2011

Immunizations		US (%)	NC (%)
MenACWY		70.5	65.9
Tdap		78.2	77.8
≥ 1 HPV dose	F	53.0	54.4
	M	8.3	-------
≥ 3 HPV dose	F	34.8	32.3
	M	1.3	-------

CDC. *MMWR*.2012; 61(34): 671-677

Top 5 reasons for not vaccinating daughter, among parents with no intention to vaccinate in the next 12 months, NIS-Teen 2011

Reason	%
Not needed or necessary	23.2%
Not sexually active	19.5%
Safety concern/side effects	19.3%
Lack of knowledge	15.2%
No recommendation by provider	9.6%

Response categories are not mutually exclusive

2011 NIS-Teen available at http://www.cdc.gov/vaccines/stats-surv/nis/nis-2011-released.htm#nisteen

Adolescent Vaccines

- Safe and effective
- Most common side effects
  - Erythema
  - Swelling
  - Pain
- Associated with syncope

Selected Challenges to Adolescent Vaccination
"Send in The Clowns"

STRATEGIES TO INCREASE ADOLESCENT IMMUNIZATIONS

Opportunities for Improvement: Health Care Provider Issues

- Knowledge of vaccines
- Administrative and organizational strategies
  - Reminders/recall strategies
    - Helps recapture patients
    - Update database
    - Revenue opportunity
    - Prevention opportunity
  - *Every visit is an opportunity to vaccinate*
  - Schedule preventive health care visits
  - Ensure discussion about administration of vaccines, best to vaccinate before exposure
  - Chart reminders, simultaneous administration, standing orders
  - Use of social media
- Evaluation and feedback
- Recommendations to patients
- Consider incentives
- Minimize pain

Minimizing pain, discomfort, and anxiety

- Adopt a reassuring attitude (needle phobia prevalent)
- Give choices (eg, allow them to sit or lie down for shot)
- Use relaxation or distraction techniques (eg, allow teen to listen to headphones)
- Apply cold compress to injection site after the shot
- Apply adhesive compress over the injection site
- Consider analgesic medication
  - For injection pain (eg, vapocoolant spray)
  - For subsequent discomfort (eg, acetaminophen)

Postcard

Your child received his/her Tdap vaccination today at school. This will meet the requirement for entrance into 6th grade. However, it should not deter you from contacting your local physician to schedule an appointment for a complete physical and information about other recommended vaccines for this age group.

Thanks,

Amy Parker, RN, April Owenby, RN, & Kim Rogers, RN

Transylvania County School Health Nurses

Brochure

GET IMMUNIZED

Dear Parent:

You check their homework. You check their grades. But have you checked if they are up-to-date with their immunizations? The need for vaccinations didn't end when your child entered kindergarten. Teens need vaccinations to stay healthy. Vaccinations can keep your child from getting serious diseases. Ask your health-care provider which vaccines your child may need this year.

Sincerely,

SCHOOL NURSE

Did you know that these vaccines were not available when your child went for their 6th grade physical?

HEPATITIS A (HEP A)

HUMAN PAPILLOMA VIRUS (HPV)

VARICELLA (CHICKEN POX)

MENACTRA (MENINGOCCAL)

Call your Health Department or Health Care provider and ask how these can help your child stay safe & healthy!

Letter

Buncombe County Government

Buncombe County Health Center
35 Woodfin Street
Asheville, NC 28801

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To: Asheville Middle School Parents:
From: AMS Student Health Center **Date:**_____

Your child is due/may be due an immunization update. The vaccine(s) your child appears to need are indicated below. Please check your records and let us know if immunizations have been received elsewhere. If not, the Student Health Center can provide them at **NO CHARGE TO YOU!** If you have any questions, please call Ellen Riegg, RN at (828)255-5435.

- ☐ **Tetanus-Diphtheria- Pertussis. (TDAP)**- Recommended for adolescents 11 through 18 years of age as a one- time booster and additional immunization against Pertussis. Waiting at least 5 years between Td and Tdap is encouraged, but is not required.
  Comments: _____
- ☐ **Tetanus-Diphtheria (Td)** - Recommended at 11-12 years of age for those who have completed the recommended DTP/DtaP vaccination series and have not received a Td booster dose. (For students who do not want or need Tdap).
  Comments:_____
- ☐ **Hepatitis B**- Given in three doses according to a schedule. This vaccine is recommended for everyone 18 yrs of age and younger and is often required by colleges and universities.
  Comment:_____
- ☐ **Measles- Mumps- Rubella (MMR)** - Administer a second dose of MMR to adolescents who have not received two doses of MMR at greater than or equal to 12 months of age.
  Comment:_____
- ☐ **Hepatitis A**- Given in two doses 6 months apart. This vaccine is now recommended for 12 months to 18 years old.
  Comment:_____
- ☐ **HPV**- Vaccine for Human Papillomavirus. Given in 3 doses
- ☐ **Inactivated Polio Vaccine (IPV)** - Recommended for routine childhood polio vaccination from 2 months through 17 years of age.
  Comment:_____
- ☐ **Flu Vaccine**- Recommended yearly. Free vaccine criteria changes yearly.
  Comment:_____
- ☐ **Varicella (Chickenpox vaccine)** - If your child has never had the illness chickenpox, this vaccine is recommended. Two doses are now recommended for all ages. **This vaccine is not available at the Student Health Center** but can be obtained at the Buncombe Co. Health Center or at your child's physician's office.
  My Child has had the chickenpox illness: Yes__ No__
  Comment: _____

Attached are vaccine information sheets. Please read them carefully. Talk with your primary doctor to see if they have record of these immunizations. Let us know if your child has had a bad reaction to an immunization, if he/she has allergies to eggs, or if (she) is pregnant.

I have read the vaccine information sheets, verified that my child has not received the immunizations consented for, and give permission for my child to

- ☐ **Measles- Mumps- Rubella (MMR) - Administer a second dose of MMR to adolescents who have not received two doses of MMR at greater than or equal to 12 months of age.**
  Comment:_____

- ☐ **Hepatitis A- Given in two doses 6 months apart. This vaccine is now recommended for 12 months to 18 years old.**
  Comment:_____

- ☐ **HPV- Vaccine for Human Papillomavirus. Given in 3 doses according to a schedule. Recommended for girls 11-26 years of age. Now available in the SHC for all students. However, if your student is covered with private insurance, please read the attached not carefully.**
  Comment:_____

- ☐ **Meningococcal (Menactra) - Vaccine for Meningitis. Recommended at age 11-12 years. Now available in the SHC for all students. However, if your student is covered with private insurance, please read the attached note carefully.**

Comment:_____

NAME:_____

BIRTHDATE:_____

GRADE:_____ HOMEROOM_____

Attached are vaccine information sheets. Please read them carefully. Talk with your primary doctor to see if they have record of these immunizations. Let us know if your child has had a bad reaction to an immunization, if he/she has allergies to eggs, or if (she) is pregnant.

I have read the vaccine information sheets, verified that my child has not received the immunizations consented for, and give permission for my child to have the following vaccines at the Student Health Center:

PLEASE CHECK ALL VACCINES THAT YOU WISH YOUR CHILD TO RECEIVE:

- ☐ Tetanus-Diphtheria-Pertussus (Tdap)
- ☐ Tetanus -Diphtheria (Td)
- ☐ Hepatitis B Series
- ☐ MMR
- ☐ Hepatitis A
- ☐ Meningococcal * see attached
- ☐ IPV
- ☐ HPV *see attached
- ☐ FLU

Signature_____Date_____
Parent / Guardian

CDC Pre-teen Vaccine Campaign

On August 1, 2007 CDC launched a Preteen Vaccine Campaign. Campaign materials include flyers, posters, banner ads, and web content about pre-teen vaccines and the pre-teen medical check-up.

http://www.cdc.gov/vaccines/spec-grps/preteens-adol.htm

Roles as Public Health Professionals

- Immunize yourself, family, staff
- Immunize other adults, parents, and adolescents for all recommended vaccines
- Immunize infants
- Educate patients and family members about immunizations

Let’s Give Our Adolescents a Better
SHOT
At Prevention from Vaccine Preventable Diseases!!!

Thank you!

If you are interested in participating in interventions and strategies to improve adolescent vaccination as part of the

North Carolina Child Health Research Network

Please send an email to: coybea@med.unc.edu